

CLAIMS

1. A self-ballasted electrodeless fluorescent lamp, comprising:

a luminous bulb in which a luminous gas containing at least mercury is enclosed and which has a cavity portion;

5 an induction coil inserted in the cavity portion;

a circuit board electrically connected to the induction coil;

a case in which the circuit board is placed; and

a base attached to the case and electrically connected to the circuit board,

10 wherein a ballast circuit for supplying high frequency power to the induction coil is formed on the circuit board;

the luminous bulb includes an approximately spherical outer tube and an inner tube defining the cavity portion;

the circuit board is placed approximately horizontally when a central axis of the inner tube is placed vertically;

15 a connection wire for electrically connecting the induction coil and the circuit board extends from one end of the induction coil into a region beyond an outer edge of the cavity portion, and is connected to the circuit board; and

the connection wire is placed so as to be spaced apart from a sealing portion of the outer and inner tubes.

20

2. The self-ballasted electrodeless fluorescent lamp of claim 1, further comprising:

a bobbin including a winding rod, around which the induction coil is wound, and a base portion, which is placed approximately at a right angle with respect to

25 the winding rod and which supports the winding rod,

wherein the winding rod of the bobbin is inserted in the cavity portion;

the base portion of the bobbin is disposed between the luminous bulb and the circuit board; and

the connection wire extends from the one end of the induction coil so as to
5 pass on or above a surface of the base portion which is located close to the luminous bulb.

3. The self-ballasted electrodeless fluorescent lamp of claim 1 or 2, wherein part of the case supports part of the luminous bulb, and

10 the structure in which the connection wire is disposed spaced apart from the sealing portion is realized by lifting with the case the luminous bulb in a direction opposite to the base.

4. The self-ballasted electrodeless fluorescent lamp of claim 1 or 2,
15 wherein an upper end of the case supports part of the luminous bulb in such a manner as to lift the luminous bulb in a direction opposite to the base, thereby allowing the connection wire to be disposed spaced apart from the sealing portion.

5. The self-ballasted electrodeless fluorescent lamp of claim 2, wherein a
20 protrusion, which supports part of the luminous bulb in such a manner as to lift the luminous bulb in a direction opposite to the base, is formed on the base portion, which allows the connection wire to be disposed spaced apart from the sealing portion.

6. The self-ballasted electrodeless fluorescent lamp of any one of claims 1 through 5, wherein a film capacitor, which is a circuit element included in the ballast circuit, is disposed on a surface of the circuit board which is located close to the base.

5

7. A self-ballasted electrodeless fluorescent lamp, comprising:

a luminous bulb in which a luminous gas containing at least mercury is enclosed and which has a cavity portion;

an induction coil inserted in the cavity portion;

10 a circuit board electrically connected to the induction coil;

a case in which the circuit board is placed; and

a base attached to the case and electrically connected to the circuit board,

wherein a ballast circuit for supplying high frequency power to the induction coil is formed on the circuit board;

15 the luminous bulb includes an outer tube and an inner tube defining the cavity portion;

the circuit board is provided with output terminals to the induction coil and input terminals from the base;

20 the output and input terminals are disposed so as to be separate from each other by 15 mm or more;

a connection wire for electrically connecting the induction coil and the circuit board extends from one end of the induction coil into a region beyond an outer edge of the cavity portion, and is connected to the circuit board; and

25 the connection wire is placed so as to be spaced apart from a sealing portion of the outer and inner tubes.

8. The self-ballasted electrodeless fluorescent lamp of any one of claims 1 through 7, wherein the connection wire and the sealing portion are spaced apart from each other by 0.3 mm or more.

5

9. The self-ballasted electrodeless fluorescent lamp of any one of claims 1 through 8, wherein the greatest length of the circuit board is 60 mm or less.

10. The self-ballasted electrodeless fluorescent lamp of any one of claims 1 through 9, wherein a phosphor or a protective coating is not applied to an inner wall of the sealing portion.